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Campbell

COLORADO DEPARTMENT OF HEALTH

Richard D. Lamm
Governor

Thomas M. Vernon, M.D.
Executive Director

December 31, 1986

U.S. Department of Energy
Rocky Flats Plant
Rockwell International
P.O. Box 464
Golden, Colorado

Re: Request for Additional Information Needed to Complete the Closure Plan Submitted for Solar Evaporation Ponds.

Attention: Mr. Albert E. Whiteman, DOE Area Manager
Mr. Dominic J. Sanchini, Rockwell

Dear Mr. Whiteman and Mr. Sanchini:

This letter is a request for additional information needed to complete the closure plan submitted for Rocky Flats' solar evaporation ponds. This notice is issued pursuant to 6 CCR 1007-3, Section 265.112(d). Enclosed is a more detailed review of the the plan as submitted and what additional information is necessary in order to complete the submittal.

You have until March 1, 1987 to either amend the present closure plan or resubmit a new closure plan to our office as required by 6 CCR 1007-3, Section 265.112(d).

After we receive your new or amended closure plan, the Department will review this submittal for completeness. This review will result in either an approved or modified plan which will be released for public comment. This public comment period will be open for 30 days during which time a public hearing will be held. The Department will give final approval or modify the plan after consideration of all comments received during the public comment period.

If you have any questions or need further guidance, please call Mr. Mike Sattler at 331-4834.

Sincerely,

Mary J. Gearhart, P.E.
Section Chief, Permits
Hazardous Materials and
Waste Management Division

Mike Sattler
Public Health Engineer
Hazardous Materials and
Waste Management Division

Enclosure

cc: EPA, Lou Johnson
Jefferson County Health Dept.
Boulder County Health Dept.

ADMIN RECORD

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Request for Additional Information
U.S. Department of Energy
Rocky Flats Plant
E.P.A. ID # CO7890010526

1. Closure Performance Standard

The closure plan should ensure that the closure performance standard (CPS) in 6 CCR 1007-3, Section 265.111 will be achieved at final closure and during any post-closure period which may be required under 6 CCR 1007-3, Section 265.117. This includes proposing methods and procedures that will provide the information necessary to assess any contamination of the soils and groundwater. Based on this assessment, levels of cleanup can be established to satisfy 6 CCR 1007-3, Section 265.111.

The first step toward this effort is choosing indicator parameters for soil/groundwater contamination and providing the rationale behind these choices including analyses of the water, sediments and sludge or other technical justification. Specific numbers can then be set for the CPS for these indicator parameters. Your proposal to remove only the soils that classify as hazardous waste under Subpart C to meet the CPS is unacceptable. Although the standards in Section 265.228(b) may be met with this determination, Section 265.111 is not adequately addressed. For example, soil may contain 100 ppm of lead and yet only leach out 3.5 ppm in the EP toxicity test. This soil might not technically be hazardous waste, but leaving it in place also may not "control, minimize or eliminate, to the extent necessary to protect human health and the environment, post-closure escape of hazardous waste, hazardous waste constituents ..." One appropriate closure performance standard might be a maximum level that will meet section 265.111 based on health-risk studies, potential pathways, toxicity data, etc. There are other possibilities that Rocky Flats can propose for discussion as long as there is the necessary and adequate justification behind the numbers. However, using the definition of "hazardous waste" as a closure performance standard is not an option.

The next step after determining the parameters and CPS for those parameters is to develop a soils sampling program. Section 2.6 of your closure plan addresses general concerns of a soils sampling plan but this section lacks specific information. This section should include how many samples will be taken, locations of samples, sampling methods, how samples will be analyzed, sampling QA/QC, depth of samples, etc. Even though the extent of contamination is unknown, a general workplan should be presented to guide your sampling efforts. This workplan should be designed to determine the extent and nature of soils contamination. It should also include decision points to define the remedial efforts that will reach the closure performance standard. These efforts should be keyed to the results of soils sampling program and might include soils removal, in-situ treatment or impoundment-capping to meet the landfill closure requirements. However, these efforts to reach the CPS must be specified in the closure plan as well as a deadline that Rocky Flats will meet to certify closure. If Rocky Flats wants to look at all options for closure then all options must be detailed in the closure plan as well as a decision-tree outline and schedule that will enable the Division to track progress. If a firm decision is made upfront about the closure issue, then only that option needs to be outlined and followed.

The final step in addressing the closure performance standard is clearly delineating how groundwater issues will be addressed. The Division is aware of the other on-going concerns at the Rocky Flats site and realizes that corrective action may take place after these solar evaporation units are certified closed. However, certain information on groundwater must be supplied for closure purposes. How much water is Pond 207-B North receiving from the french drain system? Is there any information regarding the leak detection pipe located in Pond 207-C? The closure plan should only reference the details of the groundwater monitoring program. This monitoring program should comply with the 265 Subpart F Interim Status Groundwater Monitoring requirements. The closure plan should contain this information because the answers to these questions directly affect the closure activities. The closure plan should also clearly define the path that will address how groundwater will be monitored from now until final corrective actions are taken, whatever they might be. The closure plan should also contain an outline of the groundwater monitoring program, outlining important items such as frequency of sampling and sampling parameters.

2. Detailed Closure Steps

The closure plan must clearly specify all steps necessary to close the impoundments in a manner that will meet the approved closure performance standard, as required by 6 CCR 1007-3 Section 265.112(a)(1). This includes descriptions of all the construction, monitoring and/or the inspection steps taken from initial removal to final disposal, including any health and protection plans for all workers involved in this project. These issues include but are not limited to the following:

a. The description of the treatment system used to transform the sludge into pond-crete should be supplemented with engineering flowcharts, drawings, specifications etc. The numbers and calculations that directly affect the closure schedule should be included. These numbers include, but are not limited to, throughput, ratio of sludge to concrete, and cure time..

b. Removal of sludge, soils and liners should be discussed in more detail. For example:

- The "stockpile" mentioned in Sections 2.5.3 and 2.6.3 should be shown on a map and discussed in more detail. For example, will this stockpile be covered? Is run-on/run-off a problem?

- What is the "degradation" as mentioned in Sections 2.4.3, 2.5.3, and 2.6.3?

- A safety and protection plan should be submitted that details safety considerations and monitoring information (eg. wind blown releases from the site), safety precautions and protective equipment that will be used to protect the construction crew (eg. respirators, gloves, boots, etc.).

- Will there be any special construction problems due to a sloped impoundment when removing the liners? How will the sediments be removed from the bottom of the impoundments? Will there be any run-on/run-off control measures?

c. As discussed previously, the Nevada Test Site is currently not accepting mixed wastes. Where will these mixed wastes go for final disposal?

3. Estimate of Waste Inventory

An estimate of the maximum inventory of wastes in storage and in treatment at any time during the life of the facility is required by Section 265.112 (a)(2). Given the number in Table I - Maximum Waste Inventory - and the dimensions of the ponds in Section 1.2.4 of the closure plan, it is obvious that the impoundments are not simple cubicles dug in the ground. Please submit the engineering drawings of the impoundments, calculations of both the capacity of the impoundment and current or anticipated future waste volumes (the aqueous waste, liners, and embankment soils) and any references that would be applicable to the impoundments' construction and engineering. This would not only verify the amount of wastes currently in place, but also possibly identify any potential safety hazards that might arise from the removal of the liners and underlying soils.

4. Decontamination of Equipment

The closure plan is not clear regarding the decontamination of the equipment as required by 6 CCR 1007-3, Section 265.112(a)(3) and 265.114. Especially confusing is the requirement that all areas of equipment must be accessible for smear sampling. Does this mean if a front end loader has six inches of mud on its tires that the entire machine will be broken apart and shipped off-site or just the tires? The levels or procedures that will be used as guidelines to determine if the equipment is sufficiently decontaminated should be detailed as well as how these levels or procedures wil be carried out. The "designated wash down area" should be shown on a map and the rinsate collection system should be described more clearly. A list of equipment that will be used for your clean-up operation should also be included (eg. forklifts, portable ramps, trucks, pumps, etc.).

5. Justification of Extension for Closure Period

6 CCR 1007-3, Section 265.112(a)(4) requires a detailed construction schedule that covers the closure period. Section 265.113(b) requires a justification for any extension of this 180-day closure period. This justification must be based on two considerations - 1) The activities required to comply with the closure plan will, of necessity, take longer than 180 days and 2) the owner/operator has taken and will continue to take all steps to prevent threats to human health and the environment. Neither of these requirements are adequately discussed or justified.

In every process, there is a "rate-determining step" that controls the progress of that process; this particularly applies when justifying an extension of the closure period. This rate-determining step is the slowest activity that impedes or delays the completion of the entire process. This step has not been identified in the closure plan. Why not simply pump the liquids out of the ponds, treat it in a carbon adsorption unit and dispose of it according to your NPDES permit?

Is the pond-crete operation the rate-determining step? Is the rate-determining step the fact that you have no place to treat or store the intercepted pond seepage water until January 1989? What happens in January of 1989? Have other options (i.e. enhanced evaporation, pumping and treating, etc.) been investigated that will facilitate removal of the liquids within the 90 day period specified in Section 265.113(a)?

Furthermore, there is no demonstration that Rocky Flats "has taken and will continue to take all steps to prevent threats to human health and the environment". There are no calculations accompanying the "1.3 gallons/ft squared" evaporation rate or historical data from the actual ponds that supports this extremely crucial number. It seems feasible that the liquid in the ponds is not evaporating, but in fact, leaking into the interceptor trench. Continuing to operate these impoundments this way until January of 1989 does not show that Rocky Flats is taking steps to prevent threats to the human health and the environment.

Finally, in the Statement of Basis of Purpose for Section 265, Subpart G - Time Allowed for Closure - the statement is made that "in no case may closure take more than three years to complete." The closure period for Rocky Flats cannot extend for over three years. The Division needs a full justification addressing all the requirements of 265.113 (a)(1) and (a)(2) and 265.113 (b)(1) and (b)(2) for any extension of the closure period.